



ENGINEERING A BETTER TOMORROW

ENGINEERING | SITE WORK | LAND SURVEYING

March 15, 2017

Mr. Craig P. Dixon, Chairman
New Bedford Conservation Commission
133 William Street – Rm 304
New Bedford, MA 02740

**RE: Response Letter
Eversource Project
50 Duchaine Boulevard – New Bedford, MA**

Dear Mr. Dixon,

We have enclosed a response letter, revised Site Plans, SWPPP and stormwater calculations in response to the comment letter prepared by Nitsch Engineering dated March 6, 2017 in regards to their review of the Site Plans.

We trust the attachments noted above and included herewith will provide the necessary documentation to address their comments. If you should have any questions, please feel free to contact us.

Very Truly Yours,

FARLAND CORPORATION, INC.

Christian A. Farland

Christian A. Farland, P.E., LEED AP
Principal Engineer and President

Nitsch Engineering Comments

Comment #1:

As discussed during the Parallel Products project review, the existing wet area located at the southernmost portion of the site is considered a jurisdictional wetland resource area under the Wetland Protection Act. Therefore, all proposed stormwater treatment, recharge, and peak flow mitigation must occur prior to discharging into the area. Currently, the peak flow directed towards this wetland (referenced as "Existing Detention Basin" in HydroCAD) is higher in the proposed condition than the existing condition. Therefore, Standard 2 of the MassDEP Stormwater Management Standards is not being met. The response indicated that there was a reduction in flows to the wetland. However, review of the calculations shows that there is a reduction in flows being discharged from the wetlands and not to the wetlands.

Farland Corporation, Inc. (FC) has revised the calculations to address this comment (See attached calculations).

Comment #2:

In the proposed conditions HydroCAD model, the time of concentration for subcatchment S-10 (proposed parking lot) is listed as 16 minutes. We recommend that this be revised to 6 minutes, consistent with the MassDEP stormwater handbook and standard engineering practices for paved areas. The Applicant's engineer has indicated that this change has been made to the HydroCAD calculations. However, those calculations were not submitted for review.

See attached calculations.

Comment #3:

The Applicant is using the Dynamic Storage Indication (Dyn-Stor-Ind) pond routing for the proposed conditions. While Nitsch Engineering agrees that the method is appropriate for the proposed conditions, we would request that the model messages and error report be included in the HydroCAD output to confirm that there are not HydroCAD issues created by using the Dyn-Stor-Ind routing setting. The model output appears to indicate that the time step has been increased by 3. It is unclear why this is necessary. The Applicant's engineer has indicated that this change has been made to the HydroCAD calculations. However, those calculations were not submitted for review.

See attached calculations.

Comment #4:

Large portions of the proposed project site, including drainage areas S-3, S-4, S-6, S-7, and S-9 discharge to jurisdictional wetland resource areas with minimal treatment or peak flow mitigation. These areas include new impervious roadway and parking areas and should be designed in compliance with the water quality treatment requirements of Standard 4. The

Applicant's engineer has indicated that they would replace the downstream manhole with a water quality unit to provide treatment. We recommend they add the water quality units to the plans and provide the appropriate sizing information.

Water quality units have been added to the proposed plans and sizing information has been attached as requested.

Comment #5:

MassDEP Stormwater Management Standard 8 requires the preparation of a construction period erosion and sediment control plan for project sites greater than 1 acre. Since the project is greater than 1 acre, it also requires a National Pollutant Discharge Elimination System (DPDES) Construction General Permit and the preparation of a Stormwater Pollution Prevention Plan (SWPPP). MassDEP allows the preparation of a single document that fulfills both of these requirements. Nitsch Engineering recommends that the Conservation Commission include a Condition, if the project is approved, that requires the SWPPP be submitted for review prior to the start of construction.

FC has no issue with this request.

Comment #6:

The Applicant's engineer has provided additional supporting information with regards to the stormwater management design as requested in our previous letter. With regards to the water quality volume calculations, we disagree with the Applicant's approach. The Applicant's engineer has provided the entire recharge volume that exists in the sump and the detention basins as a water quality volume. The water quality volume is typically calculated as the amount of volume provided prior to discharge to the infiltrative area of the detention basin. Therefore, the sediment forebays should be designed to hold the water quality volume.

FC disagrees with the assessment that the required water quality volume must be provided prior to discharge to the infiltrative area of the detention basin. The Massachusetts Stormwater Handbook requires structural stormwater BMPs to be sized to capture the required water quality volume to achieve Standard 4. Infiltration Basins achieve 80% TSS removal when they are designed to provide storage and exfiltration of the required recharge volume and treatment of the required water quality volume, provided it is combined with adequate pretreatment (sediment forebay). A sediment forebay, designed in accordance with the Stormwater Handbook, must hold a minimum volume of 0.1-inch/impervious acre (not the water quality volume).

Comment #7:

Closed drainage calculations were provided. However, a number of pipe segments show surcharging during the 10-year storm. Typically, pipes are sized so there is no surcharge during the 10-year storm.

FC is going to upgrade the 12" RCP to a 18" RCP between DMH-3 and DMH-4. FC is going to upgrade 220' of 12" RCP pipe to 18" RCP between DMH-7 to DMH-6. FC will also upgrade the 6" pipe to a 12" pipe between DMH-16 and DMH-17. This will prevent surcharge during the 10-year storm event.

Comment #8:

The Stormwater Management Guidelines require that a foot of freeboard exist between the top of berm and the 100-year storm elevation. Two basins, Detention Basins #1 and #3, show 6 inches of freeboard during the 100-year storm.

The proposed grades of the top of berm for both Detention Basins #1 and #3 have been raised to meet the required one (1) foot of freeboard.

If you have any questions or require any further information please contact this office at (508) 717-3479.